

ABSTRACT

An apparatus and method for spray deposition of small targets, such as medical devices like stents. The apparatus includes a spray nozzle body which has a fine bore diameter to pressurize the coating material within the nozzle body thereby dampening vibration of the nozzle body during operation and stabilizing the spray coating plume. In another embodiment, a coating method is disclosed in which a finer atomized spray droplet size is achieved by pre-filming the coating material onto a flat face before entraining the coating material within the atomizing fluid, which improves manufacturing repeatability, reduces coating variances, and increases therapeutic dosage predictability. In certain embodiments of the invention, the coating materials include therapeutic agents and biologically active materials.